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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/652,350

08/29/2003

John P. Barnak

42390P15042

1298

8791

7590

06/29/2005

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EXAMINER

NGUYEN, DAO H

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 06/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/652,350

Applicant(s)

BARNAK ET AL.

Examiner

Dao H. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 13-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 and 13-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 0204 & 0205.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. In response to the communications dated 08/29/2003 through 06/03/2005, claims 1-6 and 13-19 are active in this application.

Claim(s) 7-12, and 20-25 have been cancelled.

Acknowledges

2. Receipt is acknowledged of the following items from the Applicant.

Information Disclosure Statement (IDS) filed on 02/12/2004 and 02/14/2005. The references cited on the PTOL 1449 form have been considered.

Applicant is requested to cite any relevant prior art if being aware on form PTO-1449 in accordance with the guidelines set for in M.P.E.P. 609.

3. Applicant made a provisional election without traverse to prosecute the invention of Group I, claims 1-6 and 13-19, drawn to semiconductor devices. Affirmation of this election was made in the Response to Restriction Requirement, filed 06/03/2005.

Claims 7-12 and 20-25 have been cancelled without traverse.

Applicant has the right to file a divisional application covering the subject matter of the non-elected claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claim(s) 1 and 13 is/are rejected under 35 U. S. C. § 102 (e) as being anticipated by U.S. Patent No. 6,713,358 to Chau et al.

Regarding claim 1, Chau discloses a semiconductor device, as shown in figs. 1, comprising:

a dielectric layer 130;

a silicon-nitride layer 140 superjacent to the dielectric layer 130;

a polysilicon gate layer 160 superjacent to the silicon-nitride layer 140. See also col. 3, lines 4-66.

Regarding claim 13, Chau discloses an apparatus comprising:

a gate structure including a silicon-nitride layer 140;

a substrate 110 coupled to the gate structure;

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a drain and a source coupled to the substrate (this is inherent since the device is a MOS Field-Effect Transistor which has the described gate structure). See col. 1, lines 13-27, and col. 3, lines 4-66.

6. Claim(s) 1-6 and 13-19 are rejected under 35 U. S. C. § 102 (e) as being anticipated by U.S. Patent No. 6,894,353 to Samavedam et al.

Regarding claim 1, Samavedam discloses a semiconductor device, as shown in figs. 6-7, comprising:

a dielectric layer 108;

a silicon-nitride layer 114 superjacent to the dielectric layer 108;

a polysilicon gate layer 116 superjacent to the silicon-nitride layer 114. See col. 4, lines 5-58.

Regarding claim 13, Samavedam discloses an apparatus, as shown in figs. 6-7, comprising:

a gate structure including a silicon-nitride layer 114;

a substrate 102 coupled to the gate structure;

a source/drain 130/142 coupled to the substrate. See col. 4, lines 5-58, and col. 7, line 33 to col. 8, line 24.

Regarding claims 2 and 14, Samavedam discloses the semiconductor device wherein the silicon-nitride layer 114 has been deposited upon the dielectric layer 108 using a physical vapor deposition (PVD) process. See col. 4, lines 24-58.

Regarding claims 3 and 15, Samavedam discloses the semiconductor device wherein the dielectric layer 108 has a dielectric constant of twenty or greater. See col. 4, lines 5-23; col. 7, lines 22-32. See also US Patent No. 6,713,358 to Chau et al., col. 2, lines 4-25.

Regarding claims 4-5 and 17-18, Samavedam discloses the semiconductor device wherein the polysilicon gate layer is either an n-type or a p-type. This is inherent.

Regarding claims 6 and 19, Samavedam discloses the semiconductor device wherein the semiconductor device is a complementary metal-oxide-semiconductor device. See col. 3, line 36 to col. 5, line 38; col. 6, line 24 to col. 8, line 46.

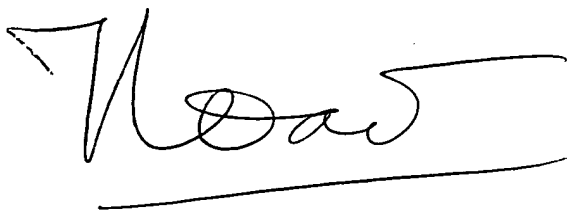
Regarding claim 16, Samavedam discloses the apparatus wherein the gate structure further includes a polysilicon layer 116 coupled to the silicon-nitride layer 114. See figs. 6-7.

Conclusion


7. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao H. Nguyen whose telephone number is (571)272-1791. The examiner can normally be reached on Monday-Friday, 9:00 AM – 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax numbers for all communication(s) is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-1625.



Dao H. Nguyen
Art Unit 2818
June 24, 2005


David Nelms
Supervisory Patent Examiner
Technology Center 2800